Bilingualism: Language and Cognition 20 (4), 2017, 706–707 © Cambridge University Press 2016 doi:10.1017/S1366728916000985

Linking learning and parsing in bilingual sentence processing

AKIRA OMAKI
University of Washington

(Received: August 15, 2016; final revision received: August 19, 2016; accepted: August 19, 2016; first published online 29 September 2016)

Cunnings (2016) provides a comprehensive review of recent bilingual sentence processing research, and argues that differences in native and non-native sentence processing behaviors are caused by differences in how native speakers and adult second language (L2) learners use memory retrieval mechanisms. The proposed account provides a wider empirical coverage than Shallow Structure Hypothesis (SSH; Clahsen & Felser, 2006), which states that non-native sentence processing mechanisms struggle to represent or use syntactic details in general. While Cunnings' proposal is undoubtedly a welcome contribution to the field of bilingual sentence processing, it lost some of the empirical strength and theoretical virtues of SSH. For example, unlike Clahsen and Felser (2006) who report a systematic comparison of child sentence processing and adult bilingual processing, Cunnings' explanation focuses only on adult bilingual sentence processing behaviors, and, as such, provides little discussion of how the proposal relates to broader issues in language acquisition and psycholinguistics. In this commentary, I will discuss perspectives from recent works that aimed to link parser development and first language (L1) acquisition (Fodor, 1998a, 1998b; Omaki & Lidz, 2015; Phillips & Ehrenhofer, 2015), and highlight their relevance to theoretical implications of Cunnings' proposal (for related discussions in L2 research, see Dekydtspotter & Renaud, 2014).

1. Learning to parse

Theories of sentence processing in language learners must aim to explain how parsing mechanisms (fail to) develop over time. This is not a trivial problem, as the mental procedures for parsing sentences are not visible to learners. In Cunnings' proposal, many of the non-target-like parsing behaviors result from reliance on retrieval cues (e.g., discourse-based cues) that are different from those that are used by native speakers (e.g., syntactic cues). Surprisingly, Cunnings offers very little discussion of how these differences arise in the course of L2 development.

In fact, SSH fared better in explaining why L2 learners rely on lexical or discourse-based cues. SSH argued that adult learners are less skilled in encoding or using syntactic details for comprehension, possibly due to missing the critical period for language acquisition. As a result, these adult learners end up resorting to information sources at other levels of linguistic representations. On the other hand, Cunnings' assumption that adult L2 learners are able to represent syntactic details raises new questions about why or how L2 learners (learn to) rely more on discourse-based cues, despite their ability to encode rich syntactic cues. It is important to note, as Cunnings points out, that some of these discourse-based cues may result from L1 influence: discourse cues may have been weighted more heavily than syntactic cues to process the L1 counterpart of the target structure (e.g., anaphora resolution by Japanese learners of English), and this cue weighting transfers from L1 to L2. Future work is needed to not only provide positive evidence for the transfer of discourse-based cues, but also to investigate how L2 learners learn to use novel memory retrieval cues in processing long-distance dependencies.

2. Parsing to learn

One of the attractive implications from the growing filed of developmental psycholinguistics is that it could provide explicit, mechanistic accounts of how language learners internalize, and subsequently learn from, the language input in the environment. This is important for understanding the precise nature of data that learners use for learning. Traditionally, researchers assumed that learners veridically analyze the input in the intended manner, but recent work has challenged this view and shown that children's INTAKE (i.e., mental representation of the input) often diverges from the actual input, and their misinterpretation could delay or hinder acquisition of target language (for a review, see Omaki & Lidz, 2015).

One could interpret SSH to provide a potential link between parsing and L2 acquisition: if adult L2 learners struggle to assign syntactic details to the input, then it follows that they will be less likely to learn rich, detailed syntactic knowledge that native speakers have. In other words, this can be taken as an explanation

Address for correspondence:
Akira Omaki, Department of Linguistics, University of Washington, PO Box 352425, Seattle, WA 98195-2425,
omaki@uw.edu

https://doi.org/10.1017/S1366728916000985 Published online by Cambridge University Press

of why language learning after puberty tends to have a lower success rate (Johnson & Newport, 1989). A potential venue for exploring how retrieval interference in L2 processing affects L2 acquisition may be provided by cases where learners' reliance on discourse-based cues deprives them of opportunities to acquire the relevant syntactic knowledge in the target language. Here again, Japanese learners' acquisition of English reflexive binding may be relevant. Suppose, for example, that the binding domain of the target language is learned from the distributional information of how often local vs. long-distance binding occurs in the input. Japanese learners who transfer their knowledge of long-distance anaphora would effectively need indirect negative evidence that English only allows local binding. However, if the learners already have the bias to use discourse-based cues and retrieve long-distance antecedents, they would not only misinterpret such sentences, but also artificially inflate the (perceived) frequency of long-distance binding. This intake information could mislead the learners into thinking that the target language input contains some evidence for long-distance binding. Future research is needed to explore if memory retrieval cues that are transferred from L1 could actually affect the developmental trajectory in L2 syntax development.

References

Clahsen, H., & Felser, C. (2006). Grammatical processing in language learners. *Applied Psycholinguistics*, *27*(*01*), 3–42.

Cunnings, I. (2016). Parsing and working memory in bilingual sentence processing. *Bilingualism: Language and Cognition*, doi:10.1017/S1366728916000675.

Dekydtspotter, L., & Renaud, C. (2014). On second language processing and grammatical development: The parser in second language acquisition. *Linguistic Approaches to Bilingualism*, *4*(*2*), 131–165.

Fodor, J. D. (1998a). Learning to parse? *Journal of Psycholinguistic Research*, *27*(*2*), 285–319.

Fodor, J. D. (1998b). Parsing to learn. *Journal of Psycholinguistic Research*, *27*(*3*), 339–374.

Johnson, J. S., & Newport, E. L. (1989). Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language. *Cognitive Psychology*, *21*(*1*), 60–99.

Omaki, A., & Lidz, J. (2015). Linking parser development to acquisition of syntactic knowledge. *Language Acquisition*, *22*(*2*), 158–192.

Phillips, C., & Ehrenhofer, L. (2015). The role of language processing in language acquisition. *Linguistic Approaches to Bilingualism*, *5*(*4*), 409–453.

https://doi.org/10.1017/S1366728916000985 Published online by Cambridge University Press